

# Delta Plan Performance Measures

## Delta Plan Chapter 3: A More Reliable Water Supply for California

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

### Strategies supporting this chapter:

1. Increase water conservation and expand local and regional supplies
2. Improve groundwater management
3. Improve conveyance and expand storage
4. Improve water management information

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
3.1	Output	<p><del>Demonstrate California's urban water suppliers' progress toward meeting</del><b>Achieve</b> California's SB X7-7 conservation goal of achieving a 10% reduction in statewide urban per capita water usage by 2015 and a 20% reduction by 2020. (Strategy 3.1)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Gallons per capita per day of urban water use.</li> <li>• Percentage change in urban per capita water use from SB X7-7 baseline years.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <del>496-197</del> gallons per capita per day (population-weighted average of baselines established in <del>2010-2015</del> Urban Water Management Plans).</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• 10% reduction by 2015 (<del>476-177</del> gallons per capita per day). <ul style="list-style-type: none"> <li>← <u>This has tentatively been achieved. As of November, 2016, 353 of the 354 retail urban water suppliers that had submitted plans reported meeting their 2015 targets. These plans are still under review by DWR, and DWR will be reporting to the Legislature by July 1, 2017, summarizing the progress reported in the plans. While this was somewhat overshadowed by the governor's emergency proclamations and mandatory water savings due to the drought, it demonstrates the flexibility of urban water demand in the state during ongoing drought situations.</u></li> </ul> </li> <li>• 20% reduction by 2020 (<del>456-158</del> gallons per capita per day).</li> </ul>
3.2	Output	<p><del>Demonstrate California's progress toward achieving</del><b>Achieve</b> the State Water Resource's Control Board's Recycled Water Policy goal for the increased use of storm water runoff (e.g. capture and reuse, recharge, redirection to constructed wetlands or landscaping) of at least 500,000 acre-feet /year by 2020 and by at least 1 million acre-feet /year by 2030. (Strategy 3.1)</p> <p><b>Metric:</b></p> <ul style="list-style-type: none"> <li>• Acre-feet per year of storm water use (e.g., capture and reuse, recharge, redirection to constructed wetlands or landscaping).</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <u>The Recycled Water Policy suggests 2007 as a baseline year. However, data for this year is not available. This measure will track increases in storm water use</u></li> </ul>

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		<p><u>through new projects receiving state funding through Proposition 1, which are required to estimate the annual average water supply increase from the project. Because these projects are being constructed after 2007, any increase in water supply due to the projects is assumed to be an increase from 2007 baseline levels.</u></p> <ul style="list-style-type: none"> <li><del>Volume of storm water use reported in 2015 Urban Water Management Plans and Prop 1 Storm Water Resource Plans may be the first widespread reporting of storm water use that could serve as a baseline.</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Increased use of storm water runoff of at least 500,000 acre-feet/year by 2020 and by at least 1 million acre-feet/year by 2030.</u></li> </ul> <p><u>Note: This target was adopted from the State Water Resources Control Board's (SWRCB's) 2009 Recycled Water Policy. SWRCB recently adopted the Strategy to Optimize Resource Management of Storm Water (STORMS). The first project in STORMS is currently underway producing regionally-based metrics for short-term and long-term storm water capture and beneficial use goals and will include technical rationale and scientific basis for the goals. As STORMS progresses, this performance measure will likely need to be updated to take into account the best available information for metrics, baselines, targets, and data sources.</u></p>									
3.4	Outcome	<p><u>Measurable reduction in reliance on the Delta in each hydrologic region. Demonstrate a measureable reduction in reliance on the Delta at the regional level based on individual water supplier reports. (Strategy 3.1)</u></p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>10-year moving average volume and percent of total water used (percent of total water portfolio) originating in the Delta watershed for all years, and for different water year types.</del></li> <li><u>Average volume of total water use met by water originating in the Delta watershed, by hydrologic region, for years with available water balance data during each California Water Plan update.</u></li> <li><del>10-year moving average volume and percent of total water use met from local and regional sources. For the purposes of reporting progress in reducing reliance on the Delta and improving regional self-reliance, water conservation and efficiency measures are considered new sources of water supply.</del></li> <li><u>Average percent of total water use met by water originating in the Delta watershed, by hydrologic region, for years with available water balance data during each California Water Plan update. For this metric, urban efficiency achievements mandated by SB X7-7 and documented in Urban Water Management Plans will be aggregated for each region and counted as a source of supply.</u></li> <li><del>Projected volume and percent of total use met by local and regional sources of supply.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>10-year average volume and percent of total water use met by water originating in the Delta watershed, by hydrologic region, as of Delta Plan adoption (May 2013) for all years, and for different water year types.</del></li> <li><u>10-year average volume and percent of total water use met by local and regional supplies, by hydrologic region, as of Delta Plan adoption (May 2013).</u></li> <li><u>Average reliance on Delta water supplies from 1998-2010.</u></li> <li><u>Average volume of total water use met by water originating in the Delta watershed, by hydrologic region, from 1998-2010.</u></li> <li><u>Average percent of total water use met by water originating in the Delta watershed, by hydrologic region, from 1998-2010. For this baseline, urban efficiency baselines mandated by SB X7-7 and documented in the 2010 Urban Water Management Plans will be aggregated for each region and counted as a source of supply.</u></li> </ul> <table border="1"> <thead> <tr> <th><u>Hydrologic Region</u></th><th><u>Volume of Delta Imports (thousand acre-feet)</u></th><th><u>Percent of Total Water Supply from the Delta Watershed</u></th></tr> </thead> <tbody> <tr> <td><u>San Francisco Bay</u></td><td><u>1,056</u></td><td><u>80.3%</u></td></tr> <tr> <td><u>Central Coast</u></td><td><u>48</u></td><td><u>3.28%</u></td></tr> </tbody> </table>	<u>Hydrologic Region</u>	<u>Volume of Delta Imports (thousand acre-feet)</u>	<u>Percent of Total Water Supply from the Delta Watershed</u>	<u>San Francisco Bay</u>	<u>1,056</u>	<u>80.3%</u>	<u>Central Coast</u>	<u>48</u>	<u>3.28%</u>
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Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption			
		South Coast	1,296		25.9%
		Tulare Lake	4,376		33.6%
		South Lahontan	171		23.6%
		<p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>Decreasing trend in volume of water used from the Delta watershed or percent of total water use met by water from the Delta watershed.</del></li> <li><del>Increasing trend in volume or percent of total water use met by local and regional supplies.</del></li> </ul> <p><b>Reduced reliance on Delta water supplies by 2020.</b></p> <ul style="list-style-type: none"> <li><del>1% reduction in average volume of total water supply met by water originating in the Delta watershed, by hydrologic region.</del></li> <li><del>Reduction in average percent of total water supply met by water originating in the Delta watershed, by hydrologic region, equal to at least the reduction that would be achieved through SB X7-7 goals and holding baseline supplies and imports constant.</del></li> </ul>			
		<b>Hydrologic Region</b>	<b>Volume of Delta Imports (thousand acre-feet)</b>	<b>or</b>	<b>Percent of Total Water Supply from the Delta Watershed</b>
		San Francisco Bay	1,045	or	69.5%
		Central Coast	47	or	3.20%
		South Coast	1,283	or	22.2%
		Tulare Lake	4,331	or	33.3%
		South Lahontan	169	or	22.6%
3.6	Output	<p><del>Demonstrate an increase in efficiency in agricultural water use. (Strategy 3.1)</del></p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Water management fraction (ratio of the amount of water needed to be applied for optimal crop growth and the amount of water in recoverable return flow per the total amount of water applied. As efficiency increases, this ratio approaches one.).</del></li> </ul> <p><del>This metric was defined by Department of Water Resources in Methodology for Quantifying the Efficiency of Agricultural Water Use, 2012.</del></p> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>2012 Agricultural Water Management Plans or earliest available data as they are reported by water suppliers.</del></li> </ul> <p><b>Target:</b></p> <p><del>Increase in efficiency.</del></p>			

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<p>Meet the requirement of Senate Bill SB X7-7, the Water Conservation Act of 2009, requiring agricultural water suppliers to submit an Agricultural Water Management Plan (AWMP) to the Department of Water Resources (DWR). (Strategy 3.1)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Percentage of AWMPs submitted to DWR on time.</li> <li>Percentage of AWMPs submitted to DWR that include a quantification of water use efficiency.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>14% of the required AWMPs (8 of the estimated 56) were submitted to DWR on time for the 2012 cycle. 37% of required AWMPs (35 of the estimated 95) were submitted to DWR on time for the 2015 cycle.</li> <li>0% of AWMPs (0 of the estimated 56 required) submitted to DWR for the 2012 cycle included a quantification of water use efficiency improvements.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>100% of AWMPs are submitted to DWR on time.</li> <li>100% of AWMPs submitted to DWR include a quantification of water use efficiency.</li> </ul>
3.8	Outcome	<p><del>Demonstrate progress towards decreasing the overall rate of groundwater depletion in critically overdrafted basins. (Strategy 3.2)</del></p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Change in groundwater in storage.</del></li> <li><del>Groundwater elevations.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Regional groundwater estimates for California's Central Valley using satellite-based gravimetric sensors are available back to October of 2003. The California Department of Water Resources has a network of long-term monitoring wells in the San Joaquin Valley (3,124 wells) and Sacramento Valley (599 wells) that will be used to assess sub-basin groundwater trends.</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>Decreasing rate of groundwater depletion in critically overdrafted basins.</del></li> </ul> <p><del>Responsible State and local agencies complete the mandates of the 2014 Sustainable Groundwater Management Act (SGMA). (Strategy 3.2)</del></p> <p><b>Metric:</b></p> <ul style="list-style-type: none"> <li>Completion of actions required by SGMA.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>N/A</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>100% of actions required by SGMA are completed on time.</li> </ul>
3.9	Outcome	<p><del>Demonstrate that water available to be exported through the Delta is not disrupted. (Strategy 3.3)</del></p> <p><b>Metric:</b></p> <ul style="list-style-type: none"> <li><del>Percent of Central Valley Project/State Water Project final allocations delivered each year.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Long-term historical average deviation of total deliveries from final allocations.</del></li> </ul> <p><b>Target:</b></p> <p><del>Declining trend in the deviation of total deliveries from final allocations.</del></p> <p><del>Decrease in Delta exports during critically dry years and an increase in Delta exports during wet years. (Strategy 3.3)</del></p> <p><b>Metric:</b></p>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>• <u>Total water exported each water year by the State Water Project and the Central Valley Project through the Harvey O. Banks and C.W. Bill Jones Pumping Plants in the southern Delta.</u></li> </ul> <p><b><u>Baseline:</u></b></p> <ul style="list-style-type: none"> <li>• <u>Median total exports through the Harvey O. Banks and C.W. Bill Jones Pumping Plants in the southern Delta during the years 1975 through 2014 for each Sacramento River Water Year Type.</u></li> </ul> <p><b><u>Target:</u></b></p> <ul style="list-style-type: none"> <li>• <u>Total exports during critically dry years are below median historical deliveries for critically dry years (3.5 MAF).</u></li> <li>• <u>Total exports during wet years are above the median historical deliveries for wet years (4.9 MAF).</u></li> </ul>

# Delta Plan Performance Measures

## Delta Plan Chapter 4: Protect, Restore, and Enhance the Delta Ecosystem

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

### Strategies supporting this chapter:

1. Create More Natural Functional Flows
2. Restore Habitat
3. Improve Water Quality to Protect the Ecosystem  
\*Addressed in Chapter 6, Water Quality
4. Prevent Introduction of and Manage Nonnative Species Impacts
5. Improve Hatcheries and Harvest Management

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
4.2	Outcome	<p><del>Progress toward r</del>Restoring a healthier estuary using more natural functional flows, including in-Delta flows<sup>1</sup> and tributary input flows to support ecological floodplain processes<del>es</del>, (e.g., spring pulse flows along the Sacramento River, and more gradual recession flows at the end of the wet season). (Strategy 4.1)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Frequency of achieving &gt;17,000 acres of inundation for <del>2144</del> or more consecutive days in the Yolo Bypass.</li> <li>• Flows exceeding <del>winter</del> base flows. A flow, <del>at least 5 to 10</del> times greater than <del>winterthe</del> base flow, during the period of spring flows in the Sacramento River<sup>2</sup>.</li> <li>• Rate of change in the hydrograph on the receding limb as measured from spring high flows to summer low flows.</li> <li>• <u>Long-term trend in a 10-year rolling average of Delta outflow-inflow ratio.</u></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <u>Between 1939 and 2011 the Yolo Bypass experienced inundation events of at least 21 consecutive days in 38% of years.<sup>3</sup> Modeling for the years 1997–2012 estimates that inundation of at least 21 days covered 36,267 acres in 30% of years, 15,823 acres in 50% of years, and 9,976 acres in 67% of years.<sup>4</sup> Between 1984 and 2007 the Yolo Bypass experienced inundation events of at least 14 consecutive days between December and April, 10 out of 24 years.</u></li> <li>• Long-term, <u>pre-Shasta Dam</u> historical hydrograph data retrieved from U.S. Geological Survey <u>and/or California Department of Water Resources gage</u> stations<sup>5</sup> <u>from below</u></li> </ul>

<sup>1</sup> Please see the Chapter 6 Water Quality performance measure on salinity in-Delta flows for X2.

<sup>2</sup> Spring flows refers to the hydrologic spring, roughly March to June in California. However, the period used for the metric may be adjusted to address water temperature or other concerns.

<sup>3</sup> Analysis performed by Francesca Nurmi, P.E., at the Department of Water Resources. Data analyzed from USGS station 11453000 (Yolo Bypass NR Woodland CA).

<sup>4</sup> DWR 2015. Note: This is a draft report, *Yolo Bypass Salmonid Habitat Restoration and Fish Passage Hydrodynamic Modeling Draft Report*. A final version is expected in 2018.

<sup>5</sup> Discharge for gage stations below Shasta Dam can be accessed from the USGS: [https://waterdata.usgs.gov/nwis/uv/?referred\\_module=sw](https://waterdata.usgs.gov/nwis/uv/?referred_module=sw)

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<p><del>Shasta Dam.</del></p> <ul style="list-style-type: none"> <li><del>Hydrologic data for period before construction of the Central Valley Project and State Water Project, and select major dams (1929 –1955)<sup>6</sup>.</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Allow for &gt;17,000 acres of Yolo Bypass inundation for <del>2144</del> or more consecutive days between December and March in at least two out of three years.</li> <li>At least one spring flow event 5 <del>to 10</del> times winter base flow each year in the Sacramento River.</li> <li>Not to exceed daily drops in flow &gt;10% <u>per day during spring flow recession.</u></li> <li><u>The downward long-term trend in the ratio of outflow to inflow is reversed.</u></li> </ul>
4.4	Output	<p><del>Progress toward a</del> Achievement of higher acreages of the following types <u>habitat</u>: floodplain, tidal and subtidal, <del>emergent wetland, shaded</del> riverine aquatic <u>habitats</u>, and upland and riparian forest habitats. Tidal wetland and floodplain restoration projects should occur in the priority habitat restoration areas described in ER R2. (Strategy 4.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Number of acres of restoration projects constructed by habitat type, including <del>meeting progress toward the biological opinions'</del> targets <u>in the biological opinions</u> of restoring 8,000 acres of tidal wetlands and 17,000-20,000 acres of floodplain habitat in the Priority Restoration Habitat Areas. <u>For shaded riverine aquatic habitat, the metric is the number of linear feet of restored or constructed habitat.</u></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Set at zero, i</del>The number of acres restored <u>is set at zero</u> as of the Delta Plan's adoption date (May 2013) to capture all <del>the</del> restoration actions that have been implemented after the <del>Delta Plan</del> was completed.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>8,000 acres of <del>intertidal</del> <u>and subtidal</u> wetlands and 17, <del>5000</del> 20,000 acres of <u>seasonal</u> floodplain habitat projects constructed in the Priority Restoration Habitat Areas as described in the 2008 and 2009 Biological Opinions for the state and federal water projects <u>by 2018 and 2019, respectively.</u></li> <li><u>1,000 acres of aquatic, riparian, and upland habitat projects as described in the California EcoRestore initiative.</u></li> <li><u>The Suisun Marsh Management Plan calls for: restoring between 5,000-7,000 acres of tidal marsh; and enhancing more than 40,000 acres of managed wetlands.</u></li> </ul>
4.6	Outcome	<p><del>Progress toward a</del> Achieving the State and federal "doubling goal" for wild Central Valley salmon relative to the period of 1967-1991 levels. Trends will be derived from long-term salmon monitoring <del>surveys</del> conducted by the U.S. Fish and Wildlife Service, California Department of Fish and Wildlife, and others. (Strategy 4.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Number of naturally spawned wild produced</del> adult salmon <u>for each of four</u> by run types <del>in selected rivers and the annually censused for the general population in the Central Valley overall', and selected rivers:</del> <ul style="list-style-type: none"> <li>Sacramento River: <ul style="list-style-type: none"> <li>American River</li> <li>Feather River</li> <li>Sacramento River mainstem</li> </ul> </li> <li>San Joaquin River: <ul style="list-style-type: none"> <li>Tuolumne River</li> <li>Merced River</li> <li>Stanislaus River</li> <li>Mokelumne River</li> </ul> </li> </ul> </li> </ul> <p><b>Baseline:</b></p>

<sup>6</sup> Delta inflow and Net Delta Outflow Index estimates for the period of 1929–1955 can be retrieved from DWR: <http://www.water.ca.gov/dayflow/>

<sup>7</sup> Annual survey data is compiled and reported in CDFW's Grand Tab. Not all hatchery fish are marked so additional uncertainty in the estimate of naturally produced fish results from assumptions concerning fractional marking.

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>Salmon population numbers relative to average levels during the period of 1967-1991.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>As defined by the Central Valley Project Improvement Act "doubling goal" that "...natural production of anadromous fish in Central Valley Rivers and streams will be sustainable, on a long term basis, at levels not less than twice the average levels attained during the period of 1967-1991." <u>This target will be measured at least every five years.</u></li> </ul>
4.7	Outcome	<p><del>Progress toward the d</del>Documented occurrence in and use of <del>protected and</del> restored habitats and migratory corridors by native resident and migratory Delta fish and bird species. Trends in the number of native species in <del>protected and</del> restored habitats and corridors will be derived from monitoring surveys that are conducted <del>routinely as part of adaptive management strategies</del> for the protection and restoration of these areas. (Strategy 4.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Assess native fish: <ul style="list-style-type: none"> <li>Relative abundance of native fish in and near restoration project sites.</li> </ul> </li> <li>Assess native birds: <ul style="list-style-type: none"> <li>Counts of native birds, including waterfowl in the Delta.</li> </ul> </li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Fish relative abundance as of Delta Plan adoption, May 2013.</li> <li>Breeding waterfowl for 2010-2014: <ul style="list-style-type: none"> <li>Delta counts (5-year average): 7,<del>400</del><u>4</u></li> <li>Suisun Marsh counts (5-year average): 23,<del>000</del><u>422</u></li> </ul> </li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Significant positive change in slope of fish species relative abundance over time for restored sites, measured at least every five years.</u><del>Upward trend as measured by the metrics above.</del></li> <li><u>Upward annual trends in counts of native birds, including breeding waterfowl, reported as a five-year moving average.</u></li> </ul>
4.8	Outcome	<p><del>Progress toward</del><u>Achieve:</u> 1) increased habitat, connectivity, and functionality; and 2) more favorable spatial distribution of habitat types<sup>8</sup>. (Strategy 4.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Assess the function 'Provides habitat and connectivity for fish'. <ul style="list-style-type: none"> <li>Spatial-temporal variability of seasonal short-term and long-term flooding and tidal inundation.</li> <li>Marsh to open water ratio.</li> <li>Adjacency of marsh to open water by length and marsh patch size.</li> <li>Ratio of looped to dendritic channels (by length and adjacent habitat type).</li> </ul> </li> <li>Assess the function 'Provides habitat and connectivity for marsh wildlife'. <ul style="list-style-type: none"> <li>Marsh area by patch size (patch size distribution).</li> <li>Marsh area by nearest large (&gt;100 ha) neighbor distance.</li> <li>Marsh core area ratio.</li> <li>Marsh fragmentation index.</li> </ul> </li> <li>Assess the function 'Provides habitat and connectivity for waterbirds'. <ul style="list-style-type: none"> <li>Wetted area by type in winter.</li> </ul> </li> <li>Assess the function 'Provides habitat and connectivity for riparian wildlife'.</li> </ul>

<sup>8</sup> The metric, baseline and targets are derived from the San Francisco Estuary Institute, *A Delta Transformed: Ecological Functions, Spatial Metrics, and Landscape Change in the Sacramento-San Joaquin Delta* report. This report can be retrieved from: <http://ebooks.sfei.org/DeltaLandscapes/#page/1>



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		<ul style="list-style-type: none"> <li>- Riparian habitat area by patch size.</li> <li>- Riparian habitat length by width class.</li> <li>• Assess the function 'Provides habitat and connectivity for marsh- terrestrial transition zone wildlife'.               <ul style="list-style-type: none"> <li>- Length of marsh-terrestrial transition zone by terrestrial habitat type.</li> </ul> </li> </ul> <p><b>Baseline:</b></p> <table> <tr> <th>Metric</th><th>Baseline ("Modern" Delta)</th><th>Metric</th><th>Baseline ("Modern" Delta)</th></tr> <tr> <td>Spatial-temporal variability of seasonal short-term and long-term flooding and tidal inundation</td><td> <u>Tidal Inundation</u> <ul style="list-style-type: none"> <li>Dec – Feb: 3,303 ha</li> <li>Mar – May: 3,303 ha</li> <li>Jun – Aug: 3,303 ha</li> <li>Sep – Nov: 3,303 ha</li> </ul> <u>Seasonal long-duration flooding</u> <ul style="list-style-type: none"> <li>Dec – Feb: 0 ha</li> <li>Mar – May: 0 ha</li> <li>Jun – Aug: 0 ha</li> <li>Sep – Nov: 0 ha</li> </ul> <u>Seasonal short-term flooding</u> <ul style="list-style-type: none"> <li>Dec – Feb: 18,128 ha</li> <li>Mar – May: 18,128 ha</li> <li>Jun – Aug: 0 ha</li> <li>Sep – Nov: 0 ha</li> </ul> </td><td>Marsh area by nearest neighbor distance</td><td> <u>&lt;=10 m:</u> 1,161 ha  <u>10 – 100 m:</u> 143 ha  <u>100 – 1,000 m:</u> 87 ha  <u>1,000 – 10,000 m:</u> 630 ha  <u>&gt;10,000 m:</u> 2,317 ha               </td></tr> <tr> <td>Marsh to Open Water Ratio</td><td> <u>Marsh:</u> 4,296 ha  <u>Open water:</u> 26,554 ha  <u>Marsh to Open Water Ratio:</u> 0.16               </td><td>Marsh core area ratio</td><td> <u>Core Habitat:</u> 815 ha  <u>Edge Habitat:</u> 3,522 ha  <u>Core to Edge Ratio:</u> 0.23               </td></tr> <tr> <td>Adjacency of marsh to open water by length and marsh patch size</td><td> <u>Marsh Patch &gt;100 ha:</u> 31 km  <u>Marsh Patch 10 – 100 ha:</u> 236 km               </td><td>Marsh fragmentation index</td><td> <u>Areas of marsh core habitat within large marsh patch (&gt;100 ha) or within small patches &lt; 1km from large patch:</u> 491 ha               </td></tr> <tr> <td>Ratio of looped to dendritic channels</td><td> <u>Dendritic channels adjacent to marsh:</u> 84 km  <u>Dendritic channels not adjacent to marsh:</u> 255 km               </td><td>Wetted area by type in winter</td><td> <u>Ponds, Lakes, Channels and Flooded Islands:</u> 26,530 ha  <u>Tidal Inundation:</u> 3,303 ha  <u>Seasonal long-duration flooding:</u> </td></tr> </table>		Metric	Baseline ("Modern" Delta)	Metric	Baseline ("Modern" Delta)	Spatial-temporal variability of seasonal short-term and long-term flooding and tidal inundation	<u>Tidal Inundation</u> <ul style="list-style-type: none"> <li>Dec – Feb: 3,303 ha</li> <li>Mar – May: 3,303 ha</li> <li>Jun – Aug: 3,303 ha</li> <li>Sep – Nov: 3,303 ha</li> </ul> <u>Seasonal long-duration flooding</u> <ul style="list-style-type: none"> <li>Dec – Feb: 0 ha</li> <li>Mar – May: 0 ha</li> <li>Jun – Aug: 0 ha</li> <li>Sep – Nov: 0 ha</li> </ul> <u>Seasonal short-term flooding</u> <ul style="list-style-type: none"> <li>Dec – Feb: 18,128 ha</li> <li>Mar – May: 18,128 ha</li> <li>Jun – Aug: 0 ha</li> <li>Sep – Nov: 0 ha</li> </ul>	Marsh area by nearest neighbor distance	<u>&lt;=10 m:</u> 1,161 ha <u>10 – 100 m:</u> 143 ha <u>100 – 1,000 m:</u> 87 ha <u>1,000 – 10,000 m:</u> 630 ha <u>&gt;10,000 m:</u> 2,317 ha	Marsh to Open Water Ratio	<u>Marsh:</u> 4,296 ha <u>Open water:</u> 26,554 ha <u>Marsh to Open Water Ratio:</u> 0.16	Marsh core area ratio	<u>Core Habitat:</u> 815 ha <u>Edge Habitat:</u> 3,522 ha <u>Core to Edge Ratio:</u> 0.23	Adjacency of marsh to open water by length and marsh patch size	<u>Marsh Patch &gt;100 ha:</u> 31 km <u>Marsh Patch 10 – 100 ha:</u> 236 km	Marsh fragmentation index	<u>Areas of marsh core habitat within large marsh patch (&gt;100 ha) or within small patches &lt; 1km from large patch:</u> 491 ha	Ratio of looped to dendritic channels	<u>Dendritic channels adjacent to marsh:</u> 84 km <u>Dendritic channels not adjacent to marsh:</u> 255 km	Wetted area by type in winter	<u>Ponds, Lakes, Channels and Flooded Islands:</u> 26,530 ha <u>Tidal Inundation:</u> 3,303 ha <u>Seasonal long-duration flooding:</u>
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Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption					
			<u>Looped Channels:</u> 768 km <u>Fluvial or Detached:</u> 298 km		0 ha  <u>Seasonal short-term flooding:</u> 18,128 ha		
	Marsh area by patch size	<u>&lt;=10 ha:</u> 1,427 ha <u>10 – 100 ha:</u> 1,757 ha <u>100 – 1,000 ha:</u> 1,154 ha <u>1,000 – 10,000 ha:</u> 0 ha <u>&gt;10,000 ha:</u> 0 ha					
	Riparian habitat area by patch size	<u>&lt;=20 ha:</u> 1,991 ha <u>20 – 80 ha:</u> 1,364 ha <u>80 – 320 ha:</u> 1,470 ha <u>320 – 1,280 ha:</u> 2,066 ha <u>&gt;1,280 ha:</u> 0 ha	Riparian habitat length by width class	<u>0 – 100m:</u> 626 km <u>100 – 500m:</u> 87 km <u>&gt;500 m:</u> 11 km			
	Length of marsh-terrestrial transition zone by terrestrial habitat type	<table><tr><td><u>Willow Riparian Scrub or Shrub:</u> 370 km <u>Valley Foothill Riparian:</u> 116 km <u>Oak Woodland and Oak Savannah:</u> 0 km <u>Alkali Seasonal Wetland Complex:</u> 19 km <u>Wet Meadow and Seasonal Wetland:</u> 30 km</td><td><u>Stabilized Interior Dune Vegetation:</u> 0 km <u>Grassland:</u> 103 km <u>Willow Thicket:</u> 59 km <u>Vernal Pool Complex:</u> 4 km</td></tr></table>				<u>Willow Riparian Scrub or Shrub:</u> 370 km <u>Valley Foothill Riparian:</u> 116 km <u>Oak Woodland and Oak Savannah:</u> 0 km <u>Alkali Seasonal Wetland Complex:</u> 19 km <u>Wet Meadow and Seasonal Wetland:</u> 30 km	<u>Stabilized Interior Dune Vegetation:</u> 0 km <u>Grassland:</u> 103 km <u>Willow Thicket:</u> 59 km <u>Vernal Pool Complex:</u> 4 km
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	<b>Target:</b> <ul style="list-style-type: none"><li>• <u>Measure every 10 years for targets listed below:</u><ul style="list-style-type: none"><li>- Increasing extent of flooding by different inundation types throughout the year, including seasonal shallow short-term flooding, seasonal deeper long-duration flooding, and tidal inundation.</li><li>- Increasing <del>ratio</del><u>proportion</u> of marsh to open water habitat.</li><li>- Increasing <del>the proportion and</del> extent of marsh-open water edge – <del>especially that occurs</del> along large marsh patches (<u>&gt;ideally at least 100 ha</u>) <u>by restoring new marshes with dendritic channel networks.</u> <del>Decreasing proportion of marsh-open water edge that occurs along small marsh patches.</del></li><li>- <u>Increasing the ratio of dendritic to looped channels, especially dendritic channels that are bordered by marsh.</u> <del>Decreasing proportion of looped to dendritic channels.</del></li><li>- Increasing extent and proportion of marsh habitat that <u>is arranged</u><del>are</del> in large <u>patch</u> size classes (<u>&gt;ideally at least 100 ha</u>) <u>by restoring new large marsh patches and connecting existing small marsh patches.</u></li><li>- <del>Decreasing proportion of marsh that occurs in small size classes.</del></li><li>- Increasing proportion of marsh habitat that occurs in close proximity to a large marsh patch (<u>&gt;ideally at least 100 ha</u>) <u>by restoring new marshes in strategic locations.</u></li></ul></li></ul>						

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>- Increasing proportion and extent of marsh habitat that occurs in "core" habitat (<u>ideally</u> at least 50 m from outside edge of marsh) <u>by restoring marshes with habitat and expanding habitat of existing marshes.</u></li> <li>- Increasing proportion and extent of marsh habitat that occurs either in core habitat of large marsh patches or in smaller patches less than 1 km from nearest large patch.</li> <li>- Increased extent <del>of different types of inundation of inundated habitats</del> for <del>types over</del>wintering waterfowl.</li> <li>- Increasing <u>extent and</u> proportion <del>and extent</del> of riparian habitat <del>that occur in larger patches is arranged in large patch size classes. Decreasing proportion of riparian habitat that occurs in smaller patches.</del></li> <li>- Increasing <u>extent and</u> proportion <del>and extent</del> of <u>wide</u> riparian habitat. <del>length that occurs in wider width size classes. Decreasing proportion of riparian habitat length that occurs in narrow width size classes.</del></li> <li>- Increasing length of marsh <del>terrestrial transition and native terrestrial zones</del> <u>by restoring both marsh and native terrestrial habitat types.</u></li> </ul>
4.10	Outcome	<p><u>Prevention and management of key nonnative terrestrial and aquatic invasive species, including fish, invertebrates and plants, in the Delta over the next decade. Progress toward managing aquatic and terrestrial invasive nonnative species in the Delta over the next decade. Long-term animal and plant monitoring surveys will be conducted by the Interagency Ecological Program agencies, the California Department of Boating and Waterways, the U.S. Department of Agriculture, the San Francisco Estuary Institute, and others.</u> (Strategy 4.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• <u>Number of key new nonnative invasive species of fish, plants, and invertebrates establishing populations in the Delta (e.g., quagga and zebra Mussels, Hydrilla verticillata, and others as they are identified).</u></li> <li>• Assess progress toward managing <u>abundance of</u> nonnative fish: <ul style="list-style-type: none"> <li>- <u>Percent of biomass of nonnative fish species based on USFWS beach seine surveys.</u> <del>Number of newly identified nonnative fish species.</del></li> <li>- <del>Relative abundance of individual native fish and individual nonnative fish in the Delta.</del></li> </ul> </li> <li>• Assess progress toward managing invasive nonnative vegetation: <ul style="list-style-type: none"> <li>- <u>Number of acres treated for invasive plants as defined by individual plans and projects (e.g., CVFPP Conservation Strategy, Arundo control project, DBW control program, etc.).</u> <del>Number of newly identified invasive nonnative plant species reported in the Delta.</del></li> <li>- Coverage, in acres, of invasive nonnative plant species (e.g., <u>Eichhornia crassipes, Ludwigia hexapetala, Egeria densa,</u> Arundo donax and Phragmites australis) in the Delta <u>and Suisun Marsh.</u></li> </ul> </li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <u>Species reported as established in the Delta prior to 2013 (Delta Plan adoption) will be used to base identification of new invasive species establishing post-2013.</u></li> <li>• Fish: <ul style="list-style-type: none"> <li>- <u>Average percent biomass of nonnative fish species based on USFWS beach seine surveys from the period of 1995-2015 (e.g., 2013-2015 data indicates that there was a drop of ~10% total of the biomass).</u> <del>Number of new invasive nonnative species set at zero.</del></li> </ul> </li> <li>• <u>Vegetation:</u> <ul style="list-style-type: none"> <li>- <u>Number of acres treated set at zero as of 2013.</u></li> <li>- <u>Coverage estimates in acres for nuisance nonnative aquatic plant species based on available hyperspectral and Landsat remote sensing surveys conducted in the Delta during the period of 2003-2016. Arundo surveys conducted for the Delta Conservancy in 2015. Suisun Marsh vegetation surveys conducted between 1999 and 2013. Abundance or coverage of existing specific nonnative species set at the adoption of the Delta Plan May 2013.</u></li> </ul> </li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• <u>Fish:</u> <ul style="list-style-type: none"> <li>- <u>Increases the biomass of the native inshore fish community to 20% by 2030.</u></li> </ul> </li> <li>• <u>Vegetation:</u> <ul style="list-style-type: none"> <li>- <u>Acreage targets for treatment of invasive plants as defined by individual plans and projects:</u> <ul style="list-style-type: none"> <li>▪ <u>680 acres within lower Sacramento</u><sup>9</sup></li> </ul> </li> </ul> </li> </ul>

<sup>9</sup> See the 2016 Draft Central Valley Flood Protection Plan Conservation Strategy for more details: [http://www.water.ca.gov/conservationstrategy/docs/cs\\_draft.pdf](http://www.water.ca.gov/conservationstrategy/docs/cs_draft.pdf)

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>▪ <del>800 acres within lower San Joaquin</del></li> <li>▪ <del>15 acres in the Cache Slough Complex (Arundo control project)</del></li> <li>• <u>Downward trends in nonnative invasive plant species coverage (acres) for the following species: <i>Eichhornia crassipes</i>, <i>Ludwigia hexapetala</i>, <i>Egeria densa</i>, <i>Arundo donax</i> and <i>Phragmites australis</i>; either across the Delta or within treated areas.</u></li> <li>• <del>Trends for:</del> <ul style="list-style-type: none"> <li><del>— Decreasing relative abundance of nonnative/introduced fish.</del></li> <li><del>— Decreasing the number of newly identified nonnative fish species.</del></li> <li><del>— Decreasing the number of newly identified invasive nonnative plant species.</del></li> <li><del>- Decreasing coverage of invasive nonnative plant species.</del></li> </ul> </li> </ul>
4.11	Output	<p>All hatchery anadromous salmonids <u>are</u> marked and tagged. (Strategy 4.5)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Percent marked and tagged, as reported by National Marine Fisheries Service and California Department of Fish and Wildlife.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• As of May 2013 (Delta Plan adoption date): <ul style="list-style-type: none"> <li>- 100% <u>of hatchery-reared winter-run Chinook salmon, spring-run Chinook salmon, and late-fall run Chinook salmon are</u> marked and tagged <del>for Chinook salmon winter-run, spring-run and late-fall run.</del></li> <li>- 25% <u>of fall-run Chinook salmon</u> are marked and tagged. <del>for Chinook salmon fall-run.</del></li> <li>- <b>100%</b> <u>of steelhead are marked and 0% are tagged</u> <del>and 100% marked for steelhead.</del></li> </ul> </li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• 100% of hatchery <u>reared anadromous salmonids of all species are both tagged and marked</u> <del>fish are marked and tagged.</del></li> </ul>

## Delta Plan Performance Measures

### Delta Plan Chapter 5: Protect and Enhance the Unique Cultural, Recreational, Natural Resource, and Agricultural Values of the California Delta as an Evolving Place

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

#### Strategies supporting this chapter:

1. Designate the Delta as a Special Place
2. Plan to Protect the Delta’s Lands and Communities
3. Maintain Delta Agriculture
4. Encourage Recreation and Tourism
5. Sustain a Vital Delta Economy

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
5.2	Outcome	<p>The Department of Water Resources and others increase the extent of their subsidence reversal and carbon sequestration projects to 5,000 acres by January 1, <del>2023</del>2017. (Strategy 5.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Acres of subsidence reversal and carbon sequestration projects.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• Set at zero as of 2008.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• 5,000 acres by January 1, 2017 (905 acres were converted in 2008-2011 and will be included towards meeting the target).</li> </ul>
5.3	Outcome	<p>Prevent further Delta rural farmland loss to urban development in areas designated for agricultural use in Delta Plan regulations. Track conversions of farmland to habitat restoration areas. (Strategy 5.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• <del>Acres of farmland</del> Farmland lost to urban development <u>(acres)</u>.</li> <li>• <del>Acres of farmland</del> Farmland lost to urban development within areas designated for agricultural use in the Delta Plan regulations <u>(acres)</u>.</li> <li>• <del>Acres of farmland</del> Farmland converted to habitat restoration <u>(acres)</u>.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• Number of acres of Delta rural farmland designated for agriculture in Delta Plan regulations at the time of Delta Plan adoption in May of 2013.</li> </ul>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<b>Target:</b> <ul style="list-style-type: none"> <li>Zero acres of farmland lost to urban development within areas designated for agricultural use in the Delta Plan regulations.</li> </ul>
5.4	Output	<p>Water management, ecosystem restoration, and flood management projects minimize conflicts with adjoining uses by avoiding, minimizing, or mitigating adverse effects. (Strategy 5.2)</p> <b>Metrics:</b> <ul style="list-style-type: none"> <li>Percent of projects that avoid, minimize, or mitigate adverse effects to less than significant levels.</li> </ul> <b>Baseline:</b> <ul style="list-style-type: none"> <li>This performance measure was developed during the adoption of the Delta Plan (May 2013) with the primary purpose of measuring consistency with the Delta Plan, setting the baseline at May 2013.</li> </ul> <b>Target:</b> <ul style="list-style-type: none"> <li>100% consistency with the Delta Plan <u>including consultation with the Delta Protection Commission and local governments</u>, measured on an annual basis.</li> </ul>
5.5	Output	<p><del>Progress toward p</del><u>Preparation</u><del>ing</del> and implement<u>ation</u><del>ing</del> plans for the vitality and preservation of for each Delta legacy community. (Strategy 5.2)</p> <b>Metrics:</b> <ul style="list-style-type: none"> <li>Number of projects <u>and plans</u> initiated to achieve legacy community plan objectives. <u>(I.e., tracking the consideration of goals, policies, standards, and regulations/ordinances intended to promote, foster, or support considerations outlined in DP P3.)</u><sup>10</sup></li> </ul> <b>Baseline:</b> <ul style="list-style-type: none"> <li>Set at zero as of the Delta Plan's adoption date, May 2013.</li> </ul> <b>Target:</b> <ul style="list-style-type: none"> <li><del>Upward trend in the</del><u>An increasing</u> number of <u>plans implemented or adopted to</u> <del>completed projects that</del> improve community vitality <u>and preservation of Legacy Communities, measured at least every five years.</u></li> </ul>
5.6	Output	<p><del>Track the extent to which</del><u>Inclusion of</u> recreation facilities <del>are included</del> in new ecosystem restoration projects. (Strategy 5.4)</p> <b>Metrics:</b> <ul style="list-style-type: none"> <li><del>Percent</del><u>Number</u> of new ecosystem restoration projects that include recreational facilities.</li> </ul> <b>Baseline:</b> <ul style="list-style-type: none"> <li>Measured as of the date of the Delta Plan's adoption, May 2013.</li> </ul> <b>Target:</b> <ul style="list-style-type: none"> <li><del>Increasing trend in the percentage of</del><u>Increasing number</u> of new ecosystem restoration projects that include recreation facilities, <u>measured at least every five years.</u></li> </ul>

<sup>10</sup> Focus on the plans for the vitality and preservation of legacy communities that local governments prepare. DP R3 suggests that vitality and preservation, in the context of the Delta, can be achieved by emphasizing such factors as distinctive character, encouraging historic preservation, identifying opportunities to encourage tourism, serving surrounding lands, or developing other appropriate uses, and reducing flood risks.

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
5.7	Outcome	<p>Value-added crop processing trends. (Strategy 5.3)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Revenues (dollars) associated with value-added crop processing.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Measured as of the date of the Delta Plan's adoption, May 2013.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Upward trend as measured by the metric above, <u>measured at least every five years.</u></li> </ul>
5.8	Outcome	<p>Delta recreation and tourism trends. (Strategy 5.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Acres of accessible state and federal owned land to the public for recreation and tourism.</li> <li>Length (linear feet) of shoreline accessible for public recreation.</li> <li>Number of fishing licenses bought per year by county.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Measured as of the date of the Delta Plan's adoption, May 2013.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Targets below are measured at least every five years: Upward trend as measured by the metrics above.</u> <ul style="list-style-type: none"> <li><u>Increasing number of acres.</u></li> <li><u>Increasing number of linear feet.</u></li> <li><u>Increasing the number of fishing licenses.</u></li> </ul> </li> </ul>
5.9	Outcome	<p>Delta industrial, agricultural, and recreational economic trends. (Strategy 5.5)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Tonnage of p</del>Port cargo <u>(tonnage).</u></li> <li>Agriculture revenue (dollars).</li> <li>Recreation spending (dollars).</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Measured as of the date of the Delta Plan's adoption, May 2013.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>Upward trend as measured by the metrics above, <u>measured at least every five years.</u></li> </ul>

# Delta Plan Performance Measures

## Delta Plan Chapter 6: Improve Water Quality to Protect Human Health and the Environment

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

### Strategies supporting this chapter:

1. Require Delta-Specific Water Quality Protection
2. Protect Beneficial Uses by Managing Salinity
3. Improve Drinking Water Quality
4. Improve Environmental Water Quality

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
6.1	Outcome	<p><del>Water quality in the Delta and Suisun Marsh meets the San Francisco, Central Valley, and Bay-Delta Water Quality Control Plan objectives. (Strategy 6.1)</del></p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>• The reduction in the number of impaired water bodies on the 303(d) list.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>• Measured as of the date of the Delta Plan's adoption, May 2013.</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>• —</del></li> <li><del>— Water quality objectives in the respective Water Quality Control Plans listed are met.</del></li> <li><del>— TMDLs are being developed and Basin Plan amendments are being implemented for those water bodies not meeting water quality objectives (i.e., those listed under the Clean Water Act 303(d) list).</del></li> </ul> <p><u>Water quality in the Delta and Suisun Marsh meets the standards of the Clean Water Act.</u></p> <p><u>Metrics:</u></p> <ul style="list-style-type: none"> <li><u>• The number of contaminants in impaired water bodies on the 303(d) list.</u></li> </ul> <p><u>Baseline:</u></p> <ul style="list-style-type: none"> <li><u>• Measured as of the 2010 biennial Integrated Report.</u></li> </ul> <p><u>Target:</u></p> <ul style="list-style-type: none"> <li><u>• Reduction in the number of contaminants in impaired water bodies on the 303(d) list that are compiled and analyzed on a biennial basis.</u></li> </ul>



Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
6.2	Outcome	<p>Monitor salinity in the Delta, utilizing extensive existing electrical conductivity and chloride concentration (D-1641) and X2<sup>11</sup> measurement data that correspond to State Water Resources Control Board objectives. (Strategy 6.2)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Daily electrical conductivity, <del>chloride concentration</del>, and X2 <u>in the western Delta</u>.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Average annual <u>electrical conductivity and X2 salinity levels</u> from 1995 to 2015.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Targets below are reported annually<sup>12</sup>:</u> <ul style="list-style-type: none"> <li>Meeting State Water Resources Control Board <u>salinity</u> objectives for ecosystem purposes <u>an average of at least 99% of the time</u>.</li> <li>Meeting all other <u>State Water Resources Control Board</u> salinity objectives for urban and agricultural <u>beneficial</u> use <u>an average of at least 99% of the time</u>.</li> </ul> </li> </ul>
6.3	Output	<p>The Department of Water Resources begins constructing the North Bay Aqueduct Alternate Intake Project <del>by the end of 2019 as soon as possible</del> after the environmental impact report is completed. (Strategy 6.3)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Project completed.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>The Notice of Preparation for the North Bay Aqueduct Alternate Intake Project Environmental Impact Report was published on November 24, 2009.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>The North Bay Aqueduct Alternate Intake Project's <del>final-Draft</del> Environmental Impact Report projected date is <u>expected to be released by the end of 2017, September/October 2016</u>.</li> </ul>
6.4	Output	<p>Protect groundwater beneficial uses. Groundwater meets drinking water quality standards in the <del>Delta Central Valley</del><sup>13</sup> for levels of nitrate (<math>\leq 10</math> ppm NO<sub>3</sub>-N) and arsenic (<math>\leq 10</math> ppb As). (Strategy 6.3)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Number of groundwater wells used for <del>drinking domestic</del> water supply that exceed arsenic and/or nitrate drinking water limits <del>in the San Joaquin Valley</del>.</li> <li><del>Percentage of population with access to clean drinking water in the San Joaquin Valley.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><u>Number of wells within the Delta which exceed 2008 W/California water quality standards in the Central Valley</u> for levels of nitrate <u>not to exceed</u> (10 ppm NO<sub>3</sub>-N) and arsenic <u>not to exceed</u> (10 ppb As) <u>between the years of 2001 and 2013</u>.</li> <li><del>Baseline of population with access to clean drinking water in the Central Valley will be established once this performance measure is adopted.</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>Maintain or reduce</del> <u>A fifty percent reduction in the number of wells exceeding</u> nitrate and arsenic <del>standards levels</del> from baseline levels <u>using historical data (2001-2013), by 2025</u>.</li> </ul>

<sup>11</sup> X2 is the distance from the Golden Gate to the point where daily average salinity is 2 parts per thousand at 1 meter off the bottom. (Jassby et al., 1995). [http://www.swrcb.ca.gov/waterrights/water\\_issues/programs/bay\\_delta/deltaflow/docs/exhibits/usdoi/spprt\\_docs/doi\\_jassby\\_1994.pdf](http://www.swrcb.ca.gov/waterrights/water_issues/programs/bay_delta/deltaflow/docs/exhibits/usdoi/spprt_docs/doi_jassby_1994.pdf)

<sup>12</sup> The targets are to be met during periods when Temporary Urgency Change Petitions (TUPCs) are not in effect (e.g., TUPCs may be in effect during severe drought).

<sup>13</sup> ~~This performance measure refers to the San Joaquin Valley because many residents of this region rely on impaired groundwater for drinking water and have limited access to clean surface water that is exported from the Delta watershed.~~

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li><del>• Increase percent of population with access to clean drinking water in the Central Valley from baseline.</del></li> </ul>
6.5	Outcome	<p><del>Progress toward c</del>Consistently meeting applicable dissolved oxygen (DO) standards in the Delta by 2020 (i.e., Stockton Deep Water Ship Channel, Suisun Marsh, and Old and Middle River). (Strategy 6.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Milligrams of DO per liter of water (mg/L).</li> <li>• Continuous, real-time DO measurements made at multiple locations throughout the Delta.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• Measured as of the date of the Delta Plan's adoption, May 2013.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• <u>Targets below are reported annually:</u> <ul style="list-style-type: none"> <li>- Meet water quality objectives for DO in the Stockton Deep Water Ship Channel, Suisun Marsh, and Old and Middle River.</li> <li>- Maintain or exceed the minimum DO concentrations of: <ul style="list-style-type: none"> <li>• 5 mg/L <u>daily average at all times</u> everywhere in the Delta.</li> <li>• 6 mg/L <u>daily average</u> from September through November <u>only</u> in the San Joaquin River between Turner Cut and Stockton.</li> </ul> </li> </ul> </li> </ul>
6.7	Output	<p>TMDLs for critical pesticides (e.g., diazinon, chlorpyrifos, pyrethroids, <u>fipronil, and imidacloprid</u>) in the waters and sediments of the Delta are met by 202<u>7</u><del>0</del>. (Strategy 6.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• <del>Progress in developing and meeting TMDLs.</del>As defined within applicable TMDL and published in the CVRWQCB Basin Plan amendments to the Water Quality Control Plan, the following critical pesticides are in micrograms/liter: <ul style="list-style-type: none"> <li>- <u>Chlorpyrifos:</u> <ul style="list-style-type: none"> <li>• <u>0.025 µg/L, acute, 1-hour average</u></li> <li>• <u>0.015 µg/L, chronic, 4-day average</u></li> <li>• <u>Not to be exceeded once in a three-year period</u></li> </ul> </li> <li>- <u>Diazinon:</u> <ul style="list-style-type: none"> <li>• <u>0.16 µg/L, acute, 1-hour average</u></li> <li>• <u>0.10 µg/L, chronic, 4-day average</u></li> <li>• <u>Not to be exceeded once in a three-year period.</u></li> </ul> </li> </ul> </li> </ul>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>- <u>Pyrethroids: Six proposed priority pyrethroids (bifenthrin, cyfluthrin, cypermethrin, esfenvalerate, lambda-cyhalothrin, and permethrin) and additive acute and chronic triggers are described in the Central Valley Pyrethroid Pesticides TMDL and Basin Plan Amendment table<sup>14</sup> (see insert from Table IV-Z under "Additional Information").</u></li> <li>• <u>For pesticides without TMDLs, USEPA OPP provides Aquatic Life Benchmarks<sup>15</sup> on chronic and acute values in micrograms per liter (µg / L) for invertebrates. USGS collects surface water pesticide data from 100 sampling sites:</u> <ul style="list-style-type: none"> <li>- <u>Fipronil (phenylpyrazoles)</u> <ul style="list-style-type: none"> <li>• <u>0.11 µg/L, acute, 48- or 96-hour</u></li> <li>• <u>0.011 µg/L, chronic, life-cycle test</u></li> </ul> </li> <li>- <u>Imidacloprid (neonicotinoids)</u> <ul style="list-style-type: none"> <li>• <u>34.5 µg/L, acute, 48- or 96-hour</u></li> <li>• <u>1.05 µg/L, chronic, life-cycle test</u></li> </ul> </li> </ul> </li> <li>• <u>For pesticides without TMDLs, the USEPA Office of Pesticide Programs (OPP) provides Aquatic Life Benchmarks<sup>16</sup> on chronic and acute values in micrograms per liter (µg / L) for fish, invertebrate, nonvascular plants, and vascular plants. The number of percentage exceedances is the metric.</u></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <u>December 2004 monitoring baseline data to align with USEPA TMDL report. Baseline will be set by the period of record for quantification of individual compounds up to 2016. Baseline periods will vary depending upon the period of measurement for each constituent.</u></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• <u>Pesticides will not exceed their acute or chronic water quality criteria more than once in a three-year period of testing.</u></li> <li>• <u>As defined within applicable TMDL and published in the Central Valley Regional Water Quality Control Board amendments to the Water Quality Control Plan for the control of diazinon and chlorpyrifos runoff into the Sacramento-San Joaquin Delta (June 2006). Target date is defined in the Delta Plan as year 2020. Other compliance dates are defined in management plans submitted by dischargers. Following are in micrograms/liter:</u> <ul style="list-style-type: none"> <li>• <u>Chlorpyrifos:</u> <ul style="list-style-type: none"> <li>• <u>0.025, acute, 1-hour average</u></li> <li>• <u>0.015, chronic, 4-day average</u></li> <li>• <u>Not to be exceeded once in a three-year period</u></li> </ul> </li> <li>• <u>Diazinon:</u> <ul style="list-style-type: none"> <li>• <u>0.16, acute, 1-hour average</u></li> <li>• <u>0.10, chronic, 4-day average</u></li> <li>• <u>Not to be exceeded once in a three-year period.</u></li> </ul> </li> </ul> </li> <li>• <u>Pyrethroids: Target pending the adoption of the Pyrethroid Control Program into the Water Quality Control Plan for the Sacramento-San Joaquin River Basins by 2017.</u></li> </ul>
6.8	Output	<p><del>Progress toward r</del><u>R</u>educing concentrations and/or loads of inorganic nutrients (ammonium, nitrate, and phosphate) in Delta waters <u>by 2027</u><del>over the next decade</del>. (Strategy 6.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• Concentration and/or loads of ammonium, nitrate, and phosphate at key Delta water quality monitoring locations, <u>measured annually</u>.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• Nutrient concentrations, loads, and trends during the period of 2004-2013.</li> </ul> <p><b>Target:</b></p>

<sup>14</sup> Central Valley Pyrethroid Pesticides TMDL and Basin Plan Amendment.

[http://www.swrcb.ca.gov/centralvalley/water\\_issues/tmdl/central\\_valley\\_projects/central\\_valley\\_pesticides/pyrethroid\\_tmdl\\_bpa/index.shtml](http://www.swrcb.ca.gov/centralvalley/water_issues/tmdl/central_valley_projects/central_valley_pesticides/pyrethroid_tmdl_bpa/index.shtml)

<sup>15</sup> <https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-pesticide-registration>

<sup>16</sup> <https://www.epa.gov/pesticide-science-and-assessing-pesticide-risks/aquatic-life-benchmarks-pesticide-registration>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>Water shall not contain biostimulatory substances which promote aquatic growth in concentrations that cause nuisance or adversely affect beneficial uses.</li> </ul>
6.9	Outcome	<p><del>Trends in measurable</del>Measurable reduction in positive toxicity tests using standard methods toxicity from pesticides, <del>including herbicides, insecticides, and fungicides,</del> and other pollutants in Delta water <del>will be downward by 2025 over the next decade.</del> (Strategy 6.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Measurable</del> Toxicity testing using <u>standard methods approved by the USEPA for fish, invertebrates, and the USEPA approved test methods for</u> algae.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Trends associated with</del> Compared to 2008 levels<sup>17</sup>. <del>(The Stream Pollution Trends Monitoring Program monitors trends in toxicity and pollution of California waters and was implemented in 2008.)</del></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Measurable reduction in positive toxicity tests upon fish, invertebrates, and algae from pesticides and other pollutants as determined by standard methods for Delta waters by 2025.</u></li> <li><del>Downward trend of measurable toxicity results for Delta water bodies.</del></li> </ul>
6.10	Outcome	<p><del>Trends in the abundance and s</del>Spatial coverage of harmful algal blooms in the Delta. (Strategy 6.1 and Strategy 6.4)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Aerial distribution estimates <u>(in acres)</u> of harmful algal blooms (e.g., <del>m</del>Microcystis), <del>by acres</del> in the <u>waterways of the</u> Delta.</li> <li><del>Toxin concentration levels in Delta waters.</del>Abundance of harmful algal blooms (e.g., microcystis) in the Delta.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>Sighting records with the Department of Water Resources during the period of 1999-2000<sup>18</sup>.</li> <li><u>Average spatial coverage (in acres) based on surveys conducted during the period 1999-2000.</u></li> <li><u>Average ambient concentrations of toxins under non-bloom conditions based on studies conducted during the period 2004-2008<sup>19</sup>.</u></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><u>Reduce the number of harmful algal bloom sighting records as reported by 2025.</u></li> <li><u>Do not exceed average spatial coverage (acres) as indicated above, during the period of 1999-2000.</u></li> <li><u>Maintain and/or do not exceed toxicity levels of 0.8 micrograms/L microcystin and or 4 micrograms/L cylindrospermopsin<sup>20</sup>.</u> <del>Downward trend in abundance and spatial coverage of harmful algal blooms over the next decade.</del></li> </ul>
6.14	Outcome	<p><del>Trends in the spatial distribution and coverage of nuisance nonnative aquatic plants Delta.</del> (Strategy 6.1 and Strategy 6.4)</p> <p><del>▲</del> <b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>▲</del> <u>Acreage of invasive aquatic plants in the Delta (e.g., water hyacinth and others as data becomes available).</u></li> </ul> <p><del>▲</del> <b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>▲</del> <u>2000-2004 University of California Davis hyacinth monitoring surveys.</u></li> </ul>

<sup>17</sup> The Stream Pollution Trends Monitoring Program monitors trends in toxicity and pollution of California waters and was implemented in 2008.

<sup>18</sup> Lehman, P. W., Teh, S. J., Boyer, G. L., Nobriga, M. L., Bass, E., & Hogle, C. (2010, January). Initial impacts of Microcystis aeruginosa blooms on the aquatic food web in the San Francisco Estuary. *Hydrobiologia*, 637(1), 229-248. Retrieved from <http://link.springer.com/article/10.1007/s10750-009-9999-y>

<sup>19</sup> Lehman, P. W., Boyer, G. L., Satchwell, M., and Waller, S. (2008). The influence of environmental conditions on the seasonal variation of Microcystis cell density and microcystins concentration in San Francisco Estuary *Hydrobiologia*, 600(1), 187-204.

<sup>20</sup> OEHHA (Office of Environmental Health Hazard Assessment). (2009, March). Microcystins: A brief overview of their toxicity and effects, with special reference to fish, wildlife, and livestock. *Ecotoxicology Program. California Environmental Protection Agency.*

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>Target:</li> <li>Downward trend in water hyacinth acreage over the next decade.</li> </ul>

# Delta Plan Performance Measures

## Delta Plan Chapter 7: Reduce Risk to People, Property, and State Interests in the Delta

- **Administrative** performance measures describe decisions made by policy makers and managers to finalize plans or approve resources (funds, personnel, projects) for implementation of a program or group of related programs.
- **Output** (also known as “driver”) performance measures evaluate the factors that may be influencing outcomes and include on-the-ground implementation of management actions, such as acres of habitat restored or acre-feet of water released, as well as natural phenomena outside of management control (such as a flood, earthquake, or ocean conditions).
- **Outcome** performance measures evaluate responses to management actions or natural outputs.

### Strategies supporting this chapter:

1. Continue to Prepare for Delta Emergencies
2. Modernize Levee Information Management
3. Prioritize Investment in Delta Levees
4. Update Flood Management Funding Strategies
5. Manage Rural Floodplains to Avoid Increased Flood Risk
6. Protect and Expand Floodways, Floodplains, and Bypasses
7. Renew Assurances of Federal Assistance for Post-Disaster Levee Reconstruction
8. Limit State Liability

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
7.2	Outcome	<p><del>Trends</del><u>No increase</u> in loss of life in the Delta as a result of flood emergencies, and <del>economic damages associated with Delta flood emergencies</del> <u>decrease in expected annual fatalities and expected annual property damages</u>. (Strategy 7.1)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>• <u>Number of lives lost in the Delta as a result of flood emergencies.</u></li> <li>• <u>Expected Annual Fatalities (EAF) for the Delta</u></li> <li>• <del>Dollars of National Flood Insurance Program (NFIP) claims in the Delta.</del></li> <li>• <u>Expected Annual Damages (EAD) for the Delta</u></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>• <u>Number of lives lost within the Delta in recent history is zero according to the National Oceanic and Atmospheric Administration's Storm Events Database.</u></li> <li>• <u>EAF for the Delta using best available data as of 2017, as reported in the Delta Levees Investment Strategy final report.</u></li> <li>• <del>NFIP claims can date back as far as the initial NFIP Flood Insurance Rate Maps for a given area. Some areas of the Delta have maps dating back as far as 1978.</del></li> <li>• <u>EAD for the Delta using best available data as of 2017, as reported in the Delta Levees Investment Strategy final report.</u></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>• <u>Zero lives lost from floods.</u></li> <li>• <u>50% reduction in EAF for the Delta</u></li> </ul>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li><del>Reduction in dollars of NFIP claims.</del></li> <li><del>50% reduction in EAD for the Delta</del></li> </ul>
7.3	Output	<p>Level of flood risk reduction provided by Delta levees. (Strategy 7.3)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Percent of urban area in the Delta protected by levees meeting the Federal Emergency Management Agency's (FEMA's) 100-year protection standard.</del><del>Percent of communities with urban and urbanizing area in the Delta meeting the urban level of flood protection.</del></li> <li>Percent of <u>highest priority</u> Delta <del>lands</del> <u>tracts and islands identified by the Delta Levees Investment Strategy</u> protected by levees at or above the PL 84-99/<u>Bulletin 192-82</u> standard.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Percent of urban area in the Delta protected by levees meeting FEMA's 100-year protection standards and percent of Delta land protected by levees at or above the PL 84-99 standard at the time of Delta Plan adoption, May 2013.</del><del>Percent of communities with urban and urbanizing area in the Delta meeting the urban level of flood protection as of July 2, 2016.</del></li> <li><u>Percent of highest priority Delta tracts and islands identified by the Delta Levees Investment Strategy protected by levees at or above the PL 84-99/Bulletin 192-82 standard as of completion of the Delta Levees Investment Strategy.</u></li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>Target pending completion of the Delta Levees Investment Strategy.</del> <u>100% of communities with urban and urbanizing area in the Delta meets the urban level of protection by 2025.</u></li> <li><u>100% of the highest priority Delta tracts and islands identified by the Delta Levees Investment Strategy are protected by levees at or above the PL 84-99/Bulletin 192-82 standard.</u></li> </ul>
7.7	Outcome	<p><del>Trends in eligibility for federal reimbursement of emergency response and recovery costs.</del><u>Increase in community credit points in National Flood Insurance Program (NFIP) Community Rating System.</u> (Strategy 7.3 and Strategy 7.87)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li><del>Miles of levee active in the U.S. Army Corps of Engineers' Rehabilitation and Inspection Program.</del></li> <li><del>NFIP market penetration in the Delta.</del></li> <li><u>Ratings</u> <u>Community Rating System credit points</u> of Delta communities participating in the NFIP <del>Community Rating System.</del></li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li><del>Miles of levee active in the Rehabilitation and Inspection Program, NFIP market penetration, and e</del><u>Community R</u><del>atings System credit points</del> at the time of Delta Plan adoption, May 2013 or nearest available date.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li><del>Increasing trend.</del> <u>Improvement in Community Rating System credit points by 2025.</u></li> </ul>
7.1	Output	<p>Responsible local, State, and federal agencies with emergency response authority implement the recommendations of the Sacramento-San Joaquin Delta Multi-Hazard Coordination Task Force (Water Code section 12994.5) by January 1, 2014. (Strategy 7.1)</p> <p><b>Metric:</b></p> <ul style="list-style-type: none"> <li>Percent of recommendations implemented.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>0% (0/11) of recommendations implemented.</li> </ul> <p><b>Target:</b></p>

Ref. #	Type	Proposed PM Track Changes Since February 2016 Adoption
		<ul style="list-style-type: none"> <li>100% (11/11) of recommendations implemented.</li> </ul>
7.5	Outcome	<p>Water deliver interruptions by floods or earthquakes in the Delta. (Strategy 7.3)</p> <p><b>Metrics:</b></p> <ul style="list-style-type: none"> <li>Number of water delivery interruptions caused by floods or earthquakes in the Delta.</li> <li>Acre-feet of water not delivered due to disruptions caused by floods or earthquakes in the Delta.</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>N/A because this measure has a prescribed target and is not showing a change from a baseline.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>No water delivery interruptions.</li> </ul>
7.6	Output	<p>Consideration of sea level rise in flood protection planning for new residential development in the Delta. (Strategy 7.54)</p> <p><b>Metric:</b></p> <ul style="list-style-type: none"> <li>Number of proposed actions covered by the Delta Plan policy to require flood protection for residential development in rural areas (RR P2).</li> </ul> <p><b>Baseline:</b></p> <ul style="list-style-type: none"> <li>N/A because this measure has a prescribed target and is not showing a change from a baseline.</li> </ul> <p><b>Target:</b></p> <ul style="list-style-type: none"> <li>100% of proposed actions to which RR P2 are applicable meet the requirements of RR P2.</li> </ul>